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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,960	07/26/2000	Joseph Gerard Aguilar	554-232 (Aguilar1-24-1-1)	8423

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EXAMINER

OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/625,960	Applicant(s) AGUILAR ET AL.	
	Examiner Michael N. Opsasnick	Art Unit 2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 41-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-12, 14-16, 20-22, 24, 26-29, 33-35, 37, 39 and 40 is/are rejected.
- 7) ☒ Claim(s) 5, 13, 17-19, 23, 25, 30-32, 36 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/25/00</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 41-44 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 1, 2004.

Allowable Subject Matter

2. Claims 5,13,17-19,23,25,30-32,36, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4,6-12,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishiguchi (5765127).

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As per claims 1,8,12, Nishiguchi (5765127) teaches:

“a system....time intervals” as breaking into segments (fig 2a);

“means for detecting.....frequency” as extracting pitch (col. 5 lines 25-32);

“means responsive to the detecting....determining means comprising” as computing a ratio of voiced to unvoiced segments (col. 2 lines 30-40);

“means for windowing.....windowed segment” as windowing and spectral calculations (col. 5 lines 25-32);

“means for computing correlation.....for each segment” as using autocorrelation coefficients to find the pitch, and if found, determining that it is voiced (col. 6 line 54 – col. 7 line 10; col. 8 lines 22-38);

“means for separating.....audio signal” as determining the appropriate signal for voice or unvoiced, each of which occur in separate bands, and encoding differently between voice and unvoiced (col. 8 lines 31-66).

As per claims 2,9, Nishiguchi (5765127) teaches:

“wherein the audio signal....windowed segment” as refining the pitch according to the window and spectrum (col. 8 lines 18-31, referring back to col. 7 lines 26-44).

As per claims 3,6,8,10, Nishiguchi (5765127) teaches using LPC and LSP coefficients (col. 1 lines 20-30).

As per claims 4,7,11,14, Nishiguchi (5765127) teaches FFT (fig. 1, subblock 105).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 15,16,20-22,24,26-29,33-35,37,39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiguchi (5765127) in view of Gao (6507814).

As per claim 15,28, Nishiguchi (5765127) teaches:

“a system....encoder comprising” as encoder (abstract) breaking into frames/segments (fig. 2a)

“first means.....probability comprising” as computing a ratio of voiced to unvoiced segments (col. 2 lines 30-40);

“means for windowing.....windowed segment” as windowing and spectral calculations (col. 5 lines 25-32);

“means for computing correlation.....for each segment” as using autocorrelation coefficients to find the pitch, and if found, determining that it is voiced (col. 6 line 54 – col. 7 line 10; col. 8 lines 22-38).

As per claim 15, Nishiguchi (5765127) does not explicitly teach performing the voiced, unvoiced decisions on a midframe/subframe basis, however, Gao teaches performing audio encoding (Abstract) calculating on excitation sequence (col. 5 lines 25-42), and performing the pitch search on a subframe basis (col. 8 lines 53-63). Therefore, it would have been obvious to one of ordinary skill in the art of audio encoding to modify the teachings of Nishiguchi (5765127) with subframe encoding for eventual decoding because it would advantageously improve the measurement of the pitch, which leads to more accurate reconstruction of the speech (Gao (6507814), col. 1 lines 48-55, col. 2 lines 7-30).

As per claims 16,29, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches unquantization and synthesis (Gao, Fig. 1a, Fig. 3).

As per claims 20,33, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches high pass filtering and buffering (Nishiguchi (5765127), fig. 1, subblock 101,102).

As per claims 21,34, the combination of Nishiguchi (5765127) in view of Gao (6507814) power spectrum in an pitch adaptive window (Nishiguchi (5765127)), as adjusting the band according to noise power (col. 8 lines 7-25).

As per claims 22,35, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches pitch adaptive window based on frequency (Nishiguchi (5765127)), based on the location of the pitch – col. 8 lines 17-30, referring back to col. 7 lines 45-50).

As per claims 24,37, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches producing a time based signal and processing the same into a synthetic speech signal (Gao (6507814), Fig. 5, subblock 531,535).

As per claims 26,28, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches using LPC and LSP coefficients (Nishiguchi (5765127), col. 1 lines 20-30).

As per claims 27,40, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches FFT (Nishiguchi (5765127), Fig. 1, subblock 105).

As per claim 39, the combination of Nishiguchi (5765127) in view of Gao (6507814) teaches “means for windowing.....windowed segment” as windowing and spectral calculations (col. 5 lines 25-32);

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“means for computing correlation.....for each segment” as using autocorrelation coefficients to find the pitch, and if found, determining that it is voiced (Nishiguchi (5765127), col. 6 line 54 – col. 7 line 10; col. 8 lines 22-38).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see related art listed on the PTO-892 form.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED"

or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9am-4pm.

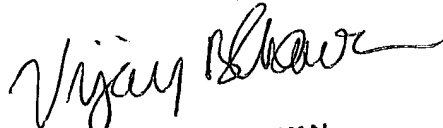
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mno

12/4/04


VIJAY CHAWAN
PRIMARY EXAMINER